

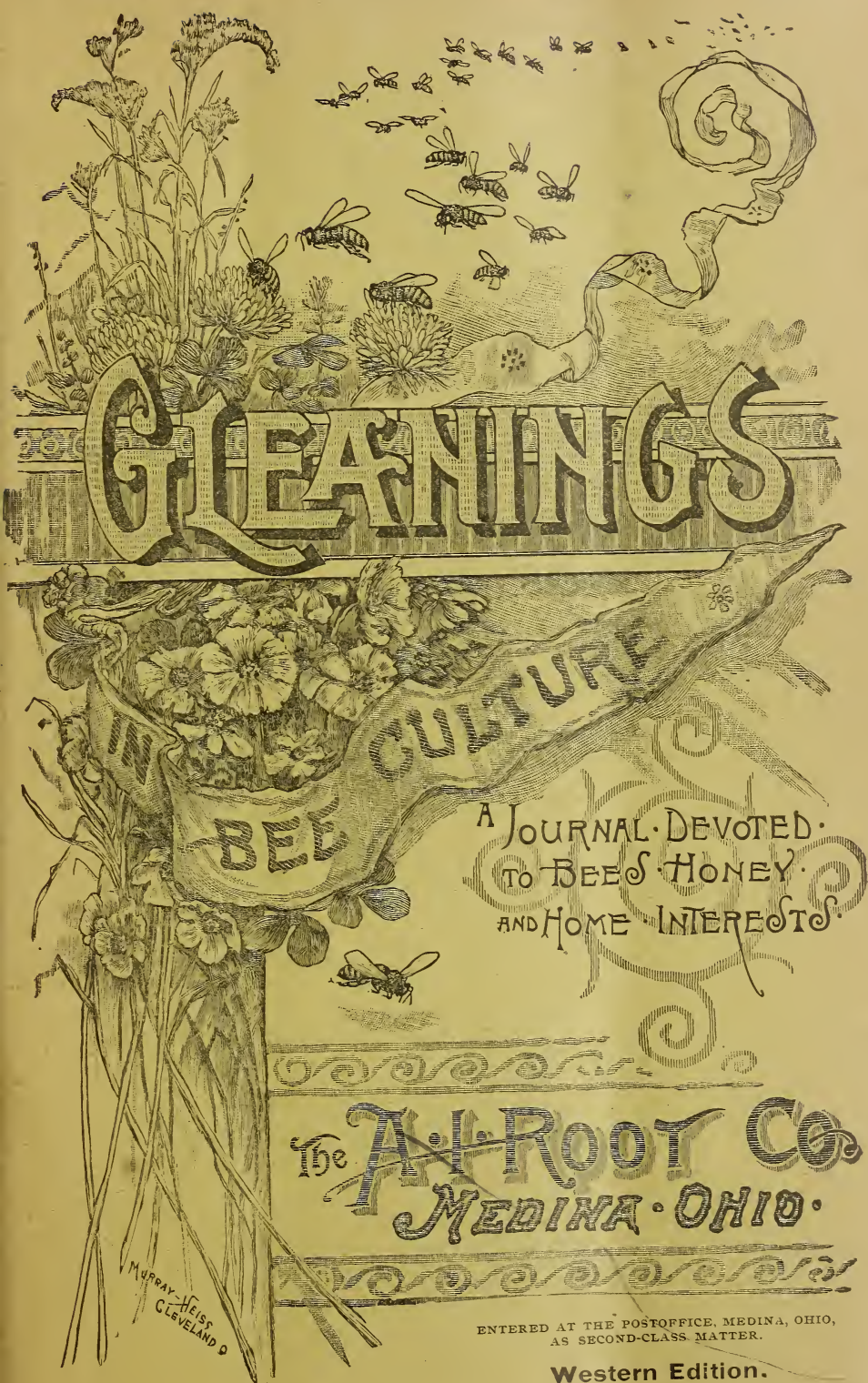
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Vol. XXIX.

JANUARY 1, 1901.

No. 1.



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AS SECOND-CLASS MATTER.

Western Edition.

The A B C of Bee Culture.

1900 Edition.

The only Encyclopaedia on Bees.

500 Pages.

The last edition, 5000 copies, issued in October, 1899, was exhausted in the short space of one year. Even before the edition was out of the press, 1500 copies had been sold; and before thirty days had passed, 1000 more copies were taken. We immediately set to work to print a new edition. While the edition of 1899 was more thoroughly revised than any previous one, that for 1900 has received even larger additions of new matter, so that the book from beginning to end is almost entirely new. It now contains 500 double-column pages. It has been most carefully gone over by Dr. C. C. Miller, who has prepared a new set of comments, and by Prof. A. J. Cook, of Pomona College, Cal. As before, old subjects have been rewritten. Descriptions of obsolete methods have in all cases been stricken out, and the very latest put in their place.

This 1900 Edition marks the 75th Thousand.

It is in many respects superior to any previous one in regard to typographical appearance, quantity of new subject-matter, and general revision old subjects, for we are now building on the knowledge and experience of these latter days, when such wonderful strides are being made.

For the Veteran as well as the Beginner.

While the book is, in the true sense, an A B C of bee culture, in that it is adapted to the requirements of beginners, it is also a comprehensive X Y Z of the subject; for no veteran, no matter how extensive his experience, can afford to be without a work of this kind, containing as it does a carefully prepared dissertation on every late method or practice known to the business. All the bee-literature of past ages, all the current literature of this and every other country, has been carefully scanned; and whatever there is that is new and valuable has been incorporated in this work.

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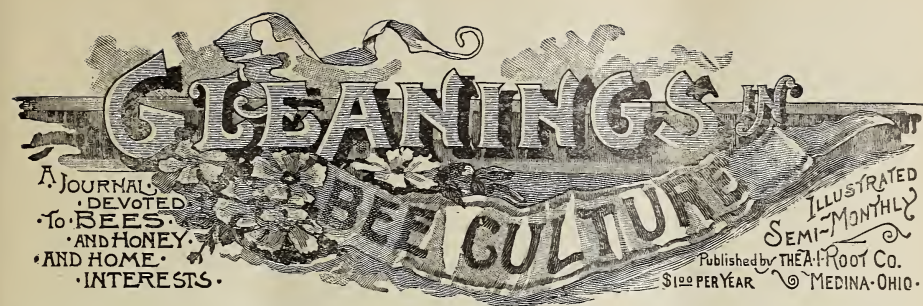
The most expensive half-tone engravings, taken direct in the majority of cases from fine clear photos, adorn its pages. Besides 50 full-page illustrations there are something like 500 smaller ones, fully setting forth the exact *modus operandi* of every method.

We are confident that this work will save any one who keeps even a few bees, ten times its cost in a single year.

While the book has been enlarged, and hundreds of pages have been rewritten and revised, the price will be the same as before: \$1.20 postpaid, or \$1.00 by express or freight with other goods; or when sent with our journal, *GLEANINGS IN BEE CULTURE*, which is a constant appendix to the A B C book, a journal beautifully printed and illustrated, 42 pages, for the very low price of \$1.75 for the two. For quantity of up-to-date bee-literature there is nothing else offered at this low price.

— ADDRESS —

The A. I. Root Co., Medina, O., U.S.A.



VOL. XXIX.

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No. 1.



H. G. QUIRIN thinks the loss of young queens results in many cases from the lack of young brood in the hives.—*Amer. Bee-keeper.*

"ALL CHEAP QUEENS are not inferior, but facilities and care necessary for the production of good queens are expensive," is a wise word from Editor Hill.

IT MAY BE WELL to suggest that if J. Warren Arthur saves seed from the *first* crop of that short-tubed clover (p. 968), the chances will be better for short tubes in the progeny.

O. O. POPPLETON says that virgin queens caged and introduced upon removing the old queen do not lay nearly so soon as if they emerged from the cell among the bees.—*Amer. Bee-keeper.*

THE BROOD-NEST is placed near the entrance, says C. P. Dadant in *Revue Int.*, the better to protect the colony against the incursions of robbers, just as we build our forts on our borders rather than in the interior.

LEBRECHT WOLFF says in *Centralblatt* the honey-bee is the most intelligent of insects, as indicated by the size of its brain. The brain of the bee is $\frac{1}{14}$ of its entire body; that of the ant, $\frac{1}{256}$; May-bug, $\frac{1}{5120}$; water-bug, $\frac{1}{4200}$.

JOSEPH BETHKE reports in *American Bee Journal* that he put 56 colonies of bees in cellar Oct. 7, 1899, and took them out April 10, 1900, and they all came out strong in bees. That was 185 days' confinement—a trifle more than half a year.

EDITOR HUTCHINSON says there is no occasion for bleaching comb honey in his part of the world, for all the combs the bees build are white. Now I'd like to know whether, in Michigan, sections sealed white in June will remain white if left on the hive till August.

WITHOUT the possibility of collusion between the two, Thaddeus Smith, p. 969, and a writer in one of the Australian journals make the same objection to Mr. Pender's low esti-

mate of the amount of honey required to make a pound of wax. Yes, Mr. Editor, that's a good point for the experiment stations to settle.

PRIVATELY, I want to say to J. E. Crane, "When you try sugar and water in equal quantities for feeding (p. 970), don't forget to try a few colonies by pouring dry sugar in the feeder and then pouring wet water on top. The percolating idea has all passed away, and it's just possible the mixing-in-advance idea may go to keep it company."

SUPPLEMENTING the good advice Bro. Doolittle gives farmers, p. 967, I should say, be sure to have hives big enough. An eight-frame hive may be the best thing for comb honey in the hands of a man who gives close attention to his bees; but with the man who gives little attention to his bees it would lead to too many cases of starvation.

IT IS SAID in *Bienen-Vater* that queens from unusually large queen-cells are no larger than those from normal cells. And I think Doolittle says the largest queens are no better than the medium ones. The most prolific queen I had the past summer was remarkable for small size. That doesn't say small queens are best, but that they may be good in spite of their size.

AT ONE TIME ye editor raised the question whether any considerable amount of propolis could be secured. Now that there's a possibility of a market for it, I may say that I think I might offer from 10 to 40 pounds every year. [I learn that Frank Benton actually sold 25 lbs of real propolis. I suppose if a demand should be made for that article, a considerable quantity of it could be gathered up.—Ed.]

A. I. ROOT has tackled a tough problem when he starts in on the "hired girl" question, page 972. On one point I'm with you, Bro. Root: Any one that isn't fit to sit at table with me isn't fit to stay in the house with me. In the *Christian Endeavor World* a story written by Chas. M. Sheldon is now running, in which a refined college graduate has become a hired girl. I'm anxious to know how she makes out.

CURIOUS how far out of the way one may be when at a distance. A writer in *Revue*

Eclectique says Americans have no guide but the eye in spacing frames, and space them $1\frac{5}{8}$ in summer and $1\frac{3}{8}$ in winter. [It is probable that the writer did not understand that the self-spacing frame is very largely used in the United States. A large percentage of the modern hives sold—at least of the number we sell—contain the self-spacing type.—ED.]

BOTTLING HONEY occupies some six or eight pages of last GLEANINGS, and then on p. 970 the editor coolly informs us that he has *begun* the subject. Say, Mr. Editor, are you going to drive all us comb-honey fellows to extraction? I must confess that, if you should go to arguing that it would be better for the country at large if every one should produce extracted rather than comb, it might be hard to meet the argument. [Yes, I have on the string several more articles on the matter of bottling honey, each touching on a different phase. When I went into the subject I little realized that there was so much in it that had never been exploited before the bee-keeping public.—ED.]

"WHILE SNOW-WHITE" is the time Doolittle says to take off sections, p. 968, just as if they would get dark by staying on. Bro. Doolittle, don't you know we are told that the dark color runs clear through the cappings? Yet I must confess that my bees are just as much out of order as yours, and in nearly all cases cap the honey snow-white, and later plaster it with the dark stuff. [The dark color does not always run clear through the cappings. I suppose you refer to a statement I have made. A large part of the travel-stained honey I have examined has shown the stain clear through. Whether this stain is due to the fact that the discoloration strikes through like ink through blotting-paper, or whether it is due to some other process, I can not say. It is very evident that, in the matter of travel-stain, there is a great difference in locality.—ED.]

SULPHURIC ACID makes dull-colored wax yellow (p. 971). How? Isn't it by operating on particles of dirt that wouldn't settle without the acid? I'm asking the question because I don't know. What I do know is that in this locality the dirt in an ordinary cake of wax cooled rapidly is enough to have a very decided effect on its color, and when cooled slowly the color is different. I remember distinctly being at a bee convention when it was held as a secret that slow cooling would clear wax, and I wasn't in the secret. If a beginner should to-day ask me how to get bright-looking wax, I should feel pretty sure of hitting the case nine times out of ten by saying, "Cool slowly." [I do not know, and I have not yet found any one, not even chemists, who can explain *why* sulphuric acid lightens the color of wax. It is not altogether a matter of dirt, by considerable. The acid has the effect of *bleaching*, and I am not sure but that is the only effect. Slow cooling certainly does allow the particles of dirt to settle out of the wax. But suppose you take a cake of dark wax, and break it in two in the middle. Melt one portion, and allow it to cool slowly over

hot water. Melt the other portion, and add a few drops of sulphuric acid in the water over which the wax is melted, and just note the difference in the effect.—ED.]

THE BELGIAN government pays annually \$5000 for bee-keepers' conferences or conventions. [And this money is well invested. I am looking forward to the time when our own government will see its way clear to appropriate at least \$500, or a tenth of the amount offered by the Belgian government, to help maintain a national bee-keepers' association. To my mind, Uncle Sam's best investments are not in great guns and big war-ships, but in the amount annually appropriated to maintain the Department of Agriculture that is now and has been doing such good work for the rural classes in the United States. When our Congressmen can see their way to go a little further to appropriate additional funds for the purpose of conventions of all sorts, calculated to help the people of this country to a better understanding of how to earn their daily bread, we shall be taking a step in advance. There are many people who read books and papers, but there is a large class who scarcely ever read any thing, and yet they would attend conventions and farmers' institutes. It is true that several of the States are doing considerable in this direction already; but there is room for more work in this line yet.—ED.]



Close every entrance just $\frac{3}{8} \times 4$;
The sleek-mailed storm-king now doth roar;
At every crack he tries a vantage-ground to seize,
And force his presence on the clustered bees.



Utter lack of amity in Amity, apparently. See editorial notes of travel in the land of Goshen.



Rambler's article on amateurs is worthy of a second reading. The disparaging remarks we often hear about amateurs is owing to the fact that the word is wrongly used for novice or beginner. An amateur works for the love of it. Newton, Franklin, Humbolt, Herschel, and hosts of other men prominent in their lines, were amateurs. See article following.



According to a writer in the *Bulletin de la Somme*, Dr. Terc, of Vienna, treats rheumatism with bee stings. He has tried his plan in 173 cases, making 39,000 stings. He claims to have had undoubted success. "And yet," says the writer, "one grumbles when stung once."



Mr. York speaks of a man whose application for life insurance was rejected because the doctor found sugar had passed the kidneys; and the question was whether or not it was

due to the sugar in honey or to common sugar. A good French writer now comes forward and recommends honey mixed with rye flour, the yolk of an egg, and a little butter, as a valuable aid in case of kidney troubles.



A writer in the *Bulletin de la Somme* urges bee-keepers in general to contribute for that journal in order to add to the general stock of information. For the benefit of those who fear they can not write good smooth French he says :

We have a large number of practical bee-keepers who have a good many bright ideas in their heads, and who could interest us by sending them to the *Bulletin*; but they fear they will be lacking in respect for the rules of grammar, and hence they refrain. But Editeur Guerin is a scholar; and as he has worn his pants thin on the school-bench it will be to him a pleasure and a joy to reconcile their prose with the rules of grammar.

The same advice might be given here. The very thing that one writer would consider a trifling event might be the missing link in a very important chain that somebody else has been unable to link together. Yes, Mr. Guerin is a scholar, and is doing much for apiculture in France.



Mr. Maurice Conquaux, proprietor of *Le Miel* (The Honey), has just published a book entitled "Apiculture in France at the Beginning of the Twentieth Century." It is a history of apiculture in all the departments of France. One will find in it every thing concerning the flora; the names of apicultural societies; the names of apicultural writers and practitioners, and manufacturers of apicultural articles. One might wish for a similar work for this country; but owing to the vast size of the United States compared with France the work would be difficult of preparation in proportion.



REVIEW INTERNATIONALE.

The great task before the bee-keepers of Europe, as here, is to get their honey into market. Mr. Ulrich Gubler, a celebrated writer, says :

As everybody is complaining that honey does not sell, we should take every occasion to make known the qualities of this product. During winter there are often bazars or auctions to help along philanthropic work. Do not fail to contribute to their success by donating several sections of honey, neatly labeled. If buyers do not come to you, you must go to them. Don't you remember a trick resorted to by Mr. Smith, a manufacturer of shoe-blackening? Finding business slow he engaged several persons to visit certain stores and call for Smith's blackening. As these calls were repeated the merchants got their eyes opened and put the blackening forward; and as it was a really good article, Smith's success was assured. If bee-keepers and their friends while traveling would call for honey at hotels the proprietors would be compelled to buy it and put it on their tables.



RUCHER BELGE.

A writer says that, although all the changes have been rung in regard to honey as a medicine, yet its value, he thinks, is not well enough understood by those suffering from diseased kidneys, spleen, and pancreas. He suffered greatly from hereditary kidney trouble, but after reading an article in a German

paper he resolved to abstain from all dishes containing sugar. In a short time his troubles disappeared, and returned only when he used sugar; but meanwhile, he says, he used honey freely. Whether he was helped by the minus sugar or the plus honey or both might be a debatable question; but at all events he recommends honey highly in such cases, and urges that doctors make further use of it. As to stings, he says a person of his acquaintance was cured of tuberculosis by inhaling formic aldehyde, and was also cured of a persistent diarrhea by the stings of bees applied to the abdomen. He says that the use of honey does not keep pace with its production in France. Many things conspire against it. For one thing, sugar, which is good for those whose organs are sound, is largely used in place of honey. Then the high price of honey at the groceries, together with its low grade, tends to drive away customers.



BRITISH BEE JOURNAL.

A writer makes a strong plea for a fund to protect bee-keepers from unjust legislation and attack; and he urges that not only enough be provided to meet each case after it arises, but a standing fund to be ready for any emergency. The wisdom of such a course has been fully demonstrated in this country by the National Bee-keepers' Association. It seems our British friends have nothing quite similar. See editorials.



The following paragraph by Mr. W. A. Vari-an, of Dublin, in regard to sweet clover, seems so pertinent and well written that I copy it just as it is.

Sweet clover, or Bokhara clover, as it is variously named in the United States, is a biennial. When grown from seed in the spring, it makes a fine growth for hay, or green feed for cattle in the late summer; but it does not flower in its first season after sowing. The second-year growth starts earlier than alfalfa (lucerne), so there is a good "bite" for stock before the latter shows. In fields where both are growing, these young plants look very much alike. The melilotus, however, will endure as much drouth as alfalfa, while it will do well on a much wetter soil than the latter. It cares nothing for the hard winters of the Western United States. I believe it was introduced into the States from Tartary as a dry-weather forage-plant for stock, but was not taken kindly to by the ranchmen, and has since spread as a weed all over the West, from Michigan to Colorado, during the past twenty-eight years. This result comes about because it sprouts in spite of the small attempts of the careless, slovenly farmer, and grows wild along the sides of roads, railways, and irrigation ditches. It also spreads over neglected corners and commons, apparently not caring how hard or poor the soil is, where the climate suits, for I have seen it growing as high as 5 ft. when in flower. The plant bears a great number of insignificant-looking bunches of little white flowers which give out a strong smell of honey, quite perceptible some distance away.



Concerning the good effects of propolis in certain diseases of animals I give the following for what it is worth, as it seems to be fathered by Mr. Gravenhorst's journal in the first place :

A landed proprietor reports in the *Deutsche Bienen-freund* that he requested a veterinary surgeon to prescribe for cattle suffering from the foot and mouth disease. The veterinary replied that no remedy was known to him. On the recommendation of a farmer, however, he tried propolis, with the following re-

sults. He says: I washed the feet (resp. claws) of the cattle affected, with propolis solution, and gave each animal about one teaspoonful of the same on a piece of bread two days running. The results far exceeded my expectations. Not only did the animals eat their food next morning with relish, but the supply of milk increased again to its former quantity, and fever disappeared. Thus in several days I had quite got rid of the plague; and I am of the opinion that if propolis is applied in good time, before the disease has been able to make much progress, the epidemic can be easily held in check.

Snakes as enemies of bees is an old theme. Here is a practical illustration of the matter:

A bee-keeper gives an interesting account of a swarm which he noticed one day at the corner of a wood while out for a walk. He ran home to fetch his swarming-tackle, but was surprised to find on his return that the whole swarm was in a state of great excitement, and on closer inspection found that a ringed snake had crept into the middle of the cluster, where it had evidently thought to enjoy a hearty meal. Having, however, removed the snake (which was already by this time considerably injured by stings), the swarm settled down, was afterward hived, and has since developed into a satisfactory colony.



AMATEUR BEE-KEEPERS.

Their Usefulness.

BY RAMBLER.

When we mention the name of an amateur in any profession we usually convey with the name a disparaging remark. For instance, the amateur photographer, always snapping his camera in season and out of season, is termed a fiend. Probably the term "amateur" has fallen into disrepute just from the free use of the snap-shot camera. Any way, each individual trade is not given to praising its amateurs.

Let us give a few moments of attention to what relation amateurs bear to bee-keeping. I have a book on the table before me that gives a brief account of the first amateur bee-keeper—Samson, the son of Manoah. We can infer from Samson's conduct that he was naught but an amateur, for no professional bee-keeper from that day to this would be guilty of stalking off across the country to visit a Delilah. Some writers go so far as to claim that Samson invented the movable frame hive, from the supposition that the bees built the combs to the ribs of the defunct lion; and it was the comb attached to one of these ribs with which he sweetened himself. But, like all amateurs, he failed to get his idea patented, and thereby missed a great opportunity.

Coming down the stream of time, the next amateur of importance is the immortal Virgil. He left a distinct and lasting impress upon the industry; and no doubt the practical bee-keeper of his time derived great benefit from his researches.

I am inclined to put Huber in the amateur class. He was not dependent upon the indus-

try for his sustenance, and, owing to his infirmity, he had to turn the management over to other parties; and while some profit was made from the bees they were worked with the paramount idea of scientific research; and the results have been of the utmost value to bee-keepers. Contemporaneous with Huber, and following in his footsteps, were many German investigators who were amateurs.

Crossing the ocean, in our own land we find the man we love to term the father of American bee-keeping—Langstroth. His invention of the movable-comb hive gave to the most crude bee-keeper a key with which to open the mysteries of the hive, and to enhance the profit of the same; and if he were the only amateur who has aided in developing the industry, that invention alone is enough to give lasting fame to the amateur.

Naturally, in due time the honey-extractor followed the invention of the movable frame, and this too was given to us by an amateur—Hruschka.

I may now get myself into trouble; but I am going to put A. I. Root into the class of amateur bee-keepers. A manufacturer of bee-keepers' supplies can have a large number of colonies of bees and still not be a professional, for he is not dependent upon his bees for his living. Then when said apiary is turned over entirely to other parties for management, and the owner goes off after greenhouses and gardening, of course he is an amateur bee-keeper. And what has amateur A. I. Root given to the fraternity? He gave us the pound section and the dollar queen. He has given us *GLEANINGS IN BEE CULTURE* and the "A B C of Bee Culture," the most popular up-to-date text-book, and the largest supply-manufacturer in the world, where new things too numerous to mention are being tested and introduced, and bee-keepers are handling the industry with less manual labor than in former days.

Prof. A. J. Cook is another amateur, and has given us an excellent manual, and continues to give us good things from time to time in the journals.

George W. York, of the *American Bee Journal*, is another very useful amateur, and follows weekly in the steps of Samuel Wagner, its founder, and an amateur. In the same connection we place Thomas G. Newman, editor, author, and staunch defender of the rights of bee-keepers, and an amateur.

Arthur C. Miller, who gave us the hot-plate foundation-fastener, is an amateur, and may possibly soon give us another useful machine.

When I once met Mr. Danzenbaker he was an amateur bee-keeper. He will possibly now claim to be a professional, but I am sure he invented his hive while an amateur.

Crossing the ocean again, we find J. Mehring, a German, the first inventor of comb foundation. He was an amateur.

In England we find many amateurs, among them Cheshire, who gave us a fine work upon scientific and practical bee-keeping; and Mr. Thomas W. Cowan, editor of the *British Bee Journal*, and author of a very correct and comprehensive work on bees, also inventor of the Cowan honey-extractor.

There are probably many other useful amateurs; but from the foregoing the amateur bee-keeper shows up well for usefulness. May he continue to bless the fraternity.

QUEEN-REARING IN FRANCE.

Following American Methods; 314
Queens from One Hive; How
it was Done.

BY GIRAUD-PABOU.

I began bee culture in 1889. In 1892 I adopted the Dadant hive, a hive with frames $11\frac{1}{2} \times 16\frac{1}{2}$, 12 frames in a hive. In 1893 I harvested an average of 66 lbs. per colony. One hive gave us a crop of 143 lbs. It was then that I began to see the advantage of selecting breeders for queen-rearing. We subscribed to the *Revue Internationale*, of Bertrand, bought the "Hive and Honey-bee," and also subscribed for the *British Bee Journal*, which one of my sons was able to read. We finally dropped this paper to take GLEANINGS, and it was in the last-named magazine that we found our new method of queen-rearing, taken from different writers.



FIG. 1.—DOOLITTLE CELL-BUILDING; FIRST ATTEMPT.



FIG. 2.—DOOLITTLE CELL-BUILDING; LATER ATTEMPTS.

The past spring we tested several colonies to ascertain which one was most likely to raise a great number of queen-cells. The colony selected was placed in a hive holding 18 large frames, and divided in two by a partition of perforated zinc to keep the queen out of the compartment in which the queen cells were to be reared. The cells were made of artificial cups by the Doolittle method, with larvæ 24 hours old, and each provided with a little royal jelly, as we had noticed that they were less readily accepted when they were not provided with any jelly. The queen-rearing compartment was divided as follows: Against the perforated zinc, one comb of brood, next to this the frame upon which are fastened the slats bearing the cell-cups, as in the cut sent first, eighteen or twenty cells in two rows; next to this another comb of brood, then another frame bearing on five slats the cell cups taken from frame No. 2 as fast as they are sealed, each slat being numbered to take the cells in regular order. See photos sent with this letter. The fifth frame is again brood, and the others

are pollen and honey. The brood is renewed from time to time with brood taken from the same queen on the other side of the perforated partition. So this hive makes a continual hatching of queens possible, while it keeps up a hive full of bees, since it has a good queen laying. As soon as the cells are ready to hatch they are placed in cell-protectors and given to nuclei. Our nuclei are made to contain ten half frames such as are described in the "Hive and Honey-bee" (page 267, American edition) by Mr. Dadant, who used them himself when he reared queens for sale. We find them better than the same surface in large frames, and they can be joined together when the nuclei are either destroyed or enlarged.

CANDIED VS. BOTTLED LIQUID HONEY.

Figuring up the Profits on Bottled Honey; Answer to Mr. Aikin.

BY CHALON FOWLS.

And now remember, Mr. Aikin,
Nae kind of license out I'm takin';
Frae this time forth I do declare
I'se ne'er ride horse nor hissie mair.
—Robert Burns.

As suggested by the editor I will now "pay my respects to the Ridgpole (F)owl." It seems the sage of the Ridgpole must have been *Aikin* for a fight or he would not have started out gunning after Ohio poultry. He "puts up a good game too" as defense, but he



GIRAUD-PABOU AND WIFE READING GLEANINGS.

In this manner one single hive reared and brought to the hatching-point 314 queens, all from this single selected queen, during the season of 1900. Our first trials in this line were made in 1897, but we did not fully succeed until the summer of 1899. This year the result was superb. We have about 100 colonies, and make our own foundation, as we are unable to find any thing but adulterated goods on this side of the ocean.

[The above was translated by C. P. Dadant, who says Mr. Giraud-Pabou has three sons with him, the youngest of whom is 16. They are in the mercantile business at Landreau, and their specialty in the bee business is queen-rearing.]

The person holding the frames of completed queen-cells is a son of Mr. Pabou, and probably the one who achieved such remarkable results in queen-rearing. Even a Doolittle or a Pridgen might be proud of that batch of cells shown in Fig. 2.—ED.]

should have noticed that in my article on page 304 I disclaimed any intention of attacking his methods of marketing in Colorado.

I suppose in the "wild and woolly West" they have such great crops that, with the sparse population, there is a perpetual glut in the honey market, and no doubt 6 cts. a pound, or the price of sugar, is all it will bring; but the case is different down here. People are willing to pay something for flavor.

Now, Bro. Aikin, you may be safe clear up on the top round of the apiarian ladder with that owl so close; but he is an old enemy of the fowl tribe, and I have mounted up high enough to get a squint at him, but I shall urge my numerous family to get after you both.

You say he's peaceable; but I'm too old a Fowl to be fooled like that. I can see through his thin disguise, and I'm going for him with my gun and a *brimstone-pot*, for he's a *Miller*, and I always tell my friends to *beware of those*.

Now, I've no quarrel with you for selling candied alfalfa honey at whatever price you can in Colorado; but just wait till I catch Dr. Miller. He talked about selling candied honey in Ohio. Editor York said he ought to keep his fingers out of the pie, and I am afraid for our pie, for he looks as though he might have a bad mouth for it.

Now, Bro. Aikin, no doubt I am but a bungler in the use of language, and that is probably the reason I did not make myself understood in my article on page 304, and I want to make it plain now that I do not now and never did intend to criticise your methods of marketing in Colorado; and the opinion expressed by the New York man you mentioned is his sentiments and not mine. But when it comes to applying your methods, that are perfectly proper in your section, where the supply always exceeds the demand, to our section, where the demand exceeds the supply, then I protest that such a policy would not help us, but would be a real damage to our market. And now that we are discussing the subject I want to call attention to some misconceptions in your article. I did not say that your alfalfa honey would bring 25 cts. a pound in Oberlin, but I *did* call attention to the fact that Mr. Selser's fine bottled honey was selling for that; but that was clover, if I am correct, and I do not think that alfalfa honey would sell here or anywhere in this section at the highest price; and in saying this I mean no reflection on the quality of alfalfa honey, but just this: While alfalfa honey would bring the highest price in *your* market, clover and basswood would sell higher here, as the people are accustomed to the flavor, and regard with suspicion any thing different; so you see I could not buy your honey, for it would not do for my trade at all. I tried alfalfa honey of the best quality years ago, and know that nine out of ten of our people will take clover and basswood, even at a higher price, and I have been paying 10 cts. per pound for the latter in ton lots when I could get alfalfa honey at 8½.

Now a word about selling prices and commissions. I want you to understand that that "pesky stingy Fowls" is not getting rich bottling and selling honey—not by a long shot, but I am just making wages in buying and bottling honey in off years, with the idea of holding trade so as to have a good market for my honey when I do have a good crop; and if I had to sell at prices at which candied honey sells for, or such prices as obtain a thousand miles west, I should be in a worse fix than the Irishman in your cartoon, for I should not be able to get even bread for my Molly. Now it's my turn to do a little figuring.

The A. I. Root Co. and myself are selling at the same price to the trade; viz., \$2.25 per dozen for the No. 25 jar (one-pound size), and the grocers retail them at the uniform price of

25 cts. each. The best honey is worth 10 cts. per lb. at Medina (see p. 794); Root's No. 25 jars are \$7.00 per gross, about 5 cts. each, or a little more if you allow for breakage; then allowing, say, ¼ cent more for labels and freight from Medina on honey and jars makes 15¼ cents; cost of selling, 10 per cent of \$2.25, or nearly 2 cts. more, makes 17¼ cts. I will explain that I pay a drummer for a wholesale grocer 10 per cent to take orders for me in near-by counties, and I also sell some to wholesale grocers at about the same discount. But the largest share of my honey is sold to the grocers in my own county; and when hauled to the neighboring town and delivered from my wagon at each store I am sure that the extra 10 per cent is honestly earned. So in either case there is the cost of selling to be deducted, which makes it about as follows: Net price to grocers, 18¾ minus 17¼ equals 1½—a little over 1½ cts. per lb. for hauling the honey and jars from the depot and back again; unpacking and washing jars, liquefying, filling, sealing, and labeling, as described in the Dec. 15th GLEANINGS, after which the



FOWLS AND HIS FOWLS AFTER THE OWL(D) MAN.

jars are to be wrapped and boxed, tagged, and stenciled "Glass, this side up," so as to ship safely, and then there are the bills to make out before I can get my money back, and there is interest on the capital invested yet to account for, and, say; am I getting too much for my work?

It might be figured a little more in my favor, but not much. Perhaps you will say that your arrangement of prices would be better, as you would give the retailer only about half as much, and allow me 5 cts. a pound, which would give me a good profit after allowing for the work. But I will explain that, after trying both ways, I am satisfied that it pays to arrange it so that the retailer will have a good profit. If his margin is too small he will not care to handle it, but will very likely take glucose mixtures that will bring him 40 or 50 per cent profit. No doubt some would say the retail price, 25 cts. a pound, is too high; but it is no higher than comb honey when put up in the No. 25 jars, as the buyer gets a very fine self sealing fruit-jar worth 4 or 5 cts.; besides, the price of pure honey should be higher than glucose mixtures. To illustrate: Be-

fore my prices were raised, the half pound glasses were retailed at 10 cts. each. The dealer's profit was much smaller than on the glucosed honey, and his customers would often say, "Why, this brand is labeled pure; but I don't believe it is, for it is all sold at the same price, and this other kind has the

groceries, and sells very slowly at a low price; and while locality and the supply and demand have very much to do with it, that is not all the reason for good prices. General attractiveness counts with almost any thing. This is a great dairy region, and butter *sometimes* se'lls for 10 cts. per lb.; yet a fancy article,



READY FOR THE RAILS.



READY FOR THE STRAW.



READY FOR THE EARTH.



READY FOR THE WINTER.

WINTERING BEES IN CLAMPS; SEE NEXT PAGE.—*Bee-keepers' Review*.

formula printed right on it." No, the grocer's profit is not too large, and I am not alone in this opinion either, as is shown by the fact that able business men like Mr. Selser and The A. I. Root Co. have adopted this same policy; and, Bro. Aikin, the demand here in Ohio for choice honey, put up liquid in neat and attractive style, is *constantly increasing*, while candied honey is seldom seen in the

coming from some one who has a reputation of producing only the best, *always* brings 25 cts. a pound or more.

Oberlin, Ohio.

[I have concluded that it would be better for me to keep out of this mince pie or I'll be dreaming of owls, fowls, and all kinds of night-hawks. After all, both are right for their localities.—ED.]

WINTERING BEES BY BURYING THEM IN CLAMPS.

Ventilation vs. no Ventilation; some Interesting Experiments.

BY W. Z. HUTCHINSON.

For many years I have wintered bees by burying them in the ground, much as farmers bury potatoes and other vegetables. I don't remember where I first got the idea, but I do remember having some correspondence on the subject with Mr. C. J. Robinson, of Richford, N. Y. He very persistently urged me to give no ventilation. He asserted that the bees would winter better with no ventilation—that the hibernation would be more perfect than in a "sea of oxygen." I was very loath to take this advice; and it was with many misgivings that I finally ventured to risk six colonies with no ventilation except that which would come through the earth. At the same time I buried a dozen other colonies, giving them ventilation by means of a four-inch tube laid along the bottom of the trench, and extending out into the outer air. There was also a similar tube at the top, extending from the bottom of the pit up through the earth some three or four feet. I remember that I had a thermometer hung, by means of a string, in this upper tube, and that I often climbed up and drew up the thermometer to learn the temperature. The outside temperature had very little effect upon that inside the pit. When the mercury stood at zero in the open air, the thermometer drawn up from the clamp showed 43°. It did not vary three degrees from this in all winter. The bees wintered perfectly in both clamps. It seemed as though they were just about the same as when set in the previous fall. The straw around them, and the hives and combs, were dry and clean, and free from mold. My belief in the ability of bees to pass the winter with no ventilation was greatly strengthened. The next winter I put 32 colonies into one clamp, and wintered them perfectly with no ventilation. This brought my confidence up to such a height that, the next winter, I put 96 colonies into one clamp, and *lost nearly all of them*. There were 16 hives that had live bees in them when dug out in the spring. These were weak in numbers, and several of them balled and killed their queens when they were set out. This was the most serious loss with which I ever met while in the bee-business. There was no dysentery. The combs were clean and dry and full of honey, but the bees had deserted the hives, and crawled all through the straw. Perhaps the heat generated by so great a number piled in such close quarters drove out the bees. Perhaps they went in search of air. They certainly went.

Since then I have several times wintered a dozen colonies in one clamp, and always with good success except in clay soil. Two or three times I have tried it there, and the bees wintered poorly, the hives and combs coming out in the spring reeking with mold and dampness. My successes have all been on a dry sandy hillside. With such a location I should

have no hesitancy, whatever, in putting any number up to 25 or 30 into a clamp. It is possible that a large number might winter all right if given sufficient ventilation, but I am without experience on that point.

The work of burying the bees is about as follows: First dig a trench wide and deep enough to allow the hives to be set down in till the tops of the hives are level with the surface of the earth. Put in a little straw and lay in two rails a foot apart. Set the hives in a row on these rails. Put some straw around the hives, and then lay some rails over the hives, putting some short pieces of rails across under the rails to support them. Next cover the hives liberally with straw, say to a depth of two feet, and then shovel on the earth to a depth of 18 inches. Sometimes I vary this by putting on only a few inches of earth, and then another layer of straw, and then a few more inches of earth, covering the whole with a light covering of manure.

I do not know that wintering bees in clamps has any advantages over that of wintering them in the cellar, and it is certainly considerably more work; but when one has a few colonies to winter at a place where there is no cellar, and experience has told him that indoor wintering is better than outdoor, he can successfully winter the bees by putting them in a clamp, if the soil and location are suitable. Don't winter in clay. Don't bury them where water will stand. Don't try wintering large numbers without ventilation; in fact, my experience is against large numbers, and I do not know that there is any objection to giving ventilation, even with small numbers, but I have never found it necessary.—*The Bee-keepers' Review*.



WHAT NEXT?

"Good afternoon, Mr. Doolittle. I have my bees all fixed for winter, and thought I would come over and ask what next I can best do (to be preparing in the best way) so I may be perfectly ready for next season when it comes."

"I am very glad indeed, friend Jones, to hear that you have your bees all ready for winter thus early (October 30), for many leave the matter of preparation for winter till cold weather comes, the last of November or fore part of December. And I am also glad that you wish to commence preparations for next season now; for it gives me assurance of your success. The ancient wise man said, 'Seest thou a man diligent in business? he shall stand before kings;' and the proverb is as applicable to these times as it was to his."

"But there are no kings in this country to stand before; and if there were, I should rather know all about what I can do during the winter to best advantage than to stand before a hundred kings."

"Well, I am not so sure about there being no kings in this country; for we often read about the 'money kings' of Wall Street. But we will drop that matter, and I will ask if you have your surplus arrangements all ready for next year."

"No. I have nothing but the bees ready. What would you do with the surplus arrangements?"

"My first work in preparing for the next season has always been to get around the supers to the hives which have been in use the past season, and scrape off all the propolis adhering to the separators, or any bits of comb that may be adhering to any part of the supers, so that the sections may fit in these supers just as well as they did when they were new. If you allow propolis to accumulate on all parts of the surplus arrangements for years, you will soon find that this will make a certain number of sections of the same size occupy more space than at first, this causing fuller, or, more properly speaking, heavier, sections of honey than formerly; besides, your keys, springs, or wedges, will not work well in tightening the sections together."

"I think that would be a good idea; but how is it best done?"

"My way is to take a cold day for this, working in a cold room, because at such times the propolis is very brittle, and will easily fly off; while in warmer weather it is more pliable, and will stick tenaciously to what it adheres to. Lay the separators down on some flat surface, and with a chisel, or other iron having sharp corners, go over the surface of the separators, allowing the chisel to lie flat on the separator, when, with a swift motion over the separator, the propolis is easily knocked off."

"I think I understand this part. What next about getting the supers ready?"

"All sections which are partly filled with honey should have the honey extracted from them (unless you think you will need it to feed in the spring), as very likely the honey now in them will not correspond as to color and flavor with that gathered next season to finish out the sections."

"But will it not spoil the combs to try to extract this honey during cold weather?"

"Yes, if you try to extract while cold; but it can be done nicely by fixing a shelf close to the ceiling of your room. Put the honey thereon and keep the room so warm that the mercury will stand at 90 to 100 degrees for three or four hours before you commence extracting. By placing the honey near the ceiling it does not require nearly as much fire to heat it as it would if placed on the floor or a bench."

"What is to be done with the sections after the honey is extracted from the combs?"

"They are to be used for 'baits' as they are called, to entice the bees to enter the supers very much sooner than they would were no comb given in the super."

"How are they arranged?"

"They are placed in the center of the super generally—one, two, four, or eight being used in each super, just in accord with the number

of partly filled sections you have in proportion to your colonies. Where a person has two, four, or eight to the colony it is best to so arrange these baits that one section having only foundation in it can come between each two baits. This causes the bees to commence work in the sections between as soon as they do on the baits, and leads them to commence soon on all of the sections in the super."

"What next?"

"The next work is to make up all the sections you think you will need during the season, furnishing each with a starter of comb foundation, or filling them entirely, as you can afford or think best. Then fill out each super having baits in it with these; and those having no baits in them, entirely."

"Do you use any supers without baits?"

"Yes. I put baits only in the first super that goes on any colony. When the bees are well at work in this first super it is generally raised up, and a super with no baits placed under it, and this causes the bees to work in the second super as well as they would were baits used."

"You speak of filling the sections with foundation at this time of the year, for using next season. Will not this foundation become hard and tough where so put in, so that the bees will not work on it as soon as they would on new? I think I have read something of this kind."

"There used to be great stress laid on using only foundation fresh from the mill, or that dipped in tepid water immediately before placing on the hive; but bee-keepers soon learned that the heat of the hive softened and made pliable any foundation, no matter how old, so the bees worked it readily, providing the foundation had not been in the light long enough to bleach and harden it."

"Again allow me to ask, what next?"

"Supposing your supers are all filled, as we have talked, you are to pack them away all nicely so they will be ready at a moment's notice, when the honey harvest arrives in June, 1901; and having this done I would next look over all empty hives which are stored away for future use; and if any repairs or cleaning is needed, this can be done, and they are stored away also, all in perfect readiness for the first swarms which issue."

"One question right here: You spoke of getting the supers ready, and filled with sections; but you did not tell how many I needed for each colony I have now. How many do you calculate are needed to each old colony in the spring?"

"After trying various numbers I settled down on 150 one pound sections for each old colony I had when I was preparing the sections during the winter. Probably all of these will not be filled one year in four; but if you try to get along with less, there is likely to come a 'down pour' of honey when you least expect it, and you will not be able to secure it all by not having sections enough. It is far better to have a few too many, always, than to be caught with not enough."

"Again, what next?"

"Having your hives in readiness, and pack-

ed away, look over every thing else you have stored away which you expect to use next season, and clean and repair things up generally, so that all and every thing will be in perfect order and readiness to be used at just the right time to secure the best results; and if you have more time left, get around your back volumes of bee-papers, and any bee-books you may have, and reread these, for you will scarcely read half an hour but you will run across some little kink you had forgotten to put in practice, which will prove, perhaps, more valuable, when put in practice, than very much you may now be using. No bee-keeper can afford to neglect posting himself up during the long evenings or days of the winter months, by reading all he can get hold of on the subject. It is the man who is *best posted* that makes the greatest success out of his calling."



OWING to the great crowd in our printing department, I am obliged to omit reports of the several conventions which I have attended during the last two or three weeks. In our next issue I hope to give brief reports of all the conventions.

THE PAN-AMERICAN EXPOSITION.

ON my recent trip eastward, Mr. Hutchinson and I, piloted by Mr. O. L. Hershisser, had the pleasure of visiting the grounds of the Pan-American Exposition. Most of the buildings were well up at the time of our visit, so that we could form some idea of what the great show will be when it is formally opened next season. While it will not be so large, of course, as the World's Fair at Chicago, yet in the matter of quality and variety of exhibits I think there is no question that it will very much excel it. Its nearness to the great source of power at Niagara Falls will make the electric displays something the world has never seen before. The framework of the electric tower was well up; and this structure alone, when completed, will extend hundreds of feet into the air; and at night, when ablaze with the cataract fires of the Niagara, will make the eighth wonder of the world. There will be electric fountains, lakelets, and lagoons, beautiful parks and gardens, all over the entire grounds.

My impression is, from what I have seen thus far, that the Pan-American will so excel the World's Fair in real novelty and variety, that one will go away feeling that he has seen more than the World's Fair had to offer. The only respect in which the Chicago exposition could be said to surpass the one at Buffalo is in the matter of size of buildings and grounds.

This is not a paid puff nor an advertisement; but I speak of it because there is a possibility

that the next convention of the National may again go to Buffalo next summer.

THE MAGNIFICENT SHOWING OF THE NATIONAL BEE-KEEPERS' ASSOCIATION FOR 1900.

THE Fourth Annual Report of the National Bee-keepers' Association has just been issued. It appears that 1900 has been a record-breaker in the matter of work done.

The General Manager first calls attention to the fact that the two bee-keepers' societies, the National Bee-keepers' Union and the United States Bee-keepers' Association, were amalgamated into what is now known as the National Bee-keepers' Association.

He next refers to the case of Utter v. Utter, the one between two brothers—one a fruit-grower and one a bee-keeper; how in the lower court, before a justice, the learned judge decided against the bee-keeper, and assessed him \$25.00 and costs; of the alarm which was expressed by bee-keepers and others over the effect of this decision, especially if it were left unchallenged. He therefore, with the concurrent judgment of the Board of Directors, ordered the case appealed to the county court. This involved a pledge of \$100 toward a favorable verdict, and also the expense of expert witnesses which he had sent to the scene of the trial.

During the year the General Manager compiled and published a 12-page pamphlet showing the value of bees as pollenizers and fruit-producers.

In 1899 the Association put up a fight against adulterated honey in Chicago. While the outcome of the suit at first was unfavorable, yet it appeared from the statements of Prof. Eaton and Commissioner Jones, of the Illinois State Pure-food Commission, at the Chicago convention, that this work had not been without its moral effect. As an indirect result of the fight made, newspapers all over Chicago said so much about the matter that a pure-food bill was drafted and enacted into law, the effects of which have been such as to practically wipe adulteration out of Chicago.

Mr. Secor acknowledges his thanks to the Division of Entomology, and especially to Prof. Frank Benton, for the valuable services rendered at various times.

He refers to several cases of trouble arising between bee-keepers and city authorities; but copies of the celebrated Arkadelphia decision were sent, which no doubt had a restraining influence. Mr. E. T. Abbott, one of the Directors, was sent to the third annual convention of the pure-food congress, which took place in Washington, March 17, 1900.

The Hakes trial, to which a representative of the Association was sent, involved the prosecution of a dealer for selling adulterated honey. The court instructed the jury to render a verdict of guilty, which was done. The result of the verdict is such that Mr. Secor has no doubt it will have a wholesome effect in Michigan and in all other States where pure-food laws are in force.

The financial statement stands as follows:

RECEIPTS.

Bal. on hand as per last year's report	\$131.22
Rec'd from Mr. Newman.....	173.95
" " Dr. Mason, Sec.....	76.85
" " members direct	383.47

Total, 765.49

DISBURSEMENTS.

Paid Dr. Mason's expenses to Jackson, Mich.....	\$ 3.60
Freight on printed matter from Mr. Newman.....	4.25
Mr. Abbott attending Pure-food Congress.....	41.25
" Bees and Horticulture " pamphlet.....	12.00
Postal Cards and printing.....	16.25
Postage-stamps.....	39.30
2500 envelopes and printing same.....	8.00
This report—650 copies.....	12.00
Other printing.....	11.00
Salary of General Manager.....	76.69
Extra clerk hire.....	20.00
Bal. cash on hand.....	521.15

\$765.49

It appears from the foregoing that the Association, from a financial point of view, was amply equipped to enter into the fight that has resulted so happily in reversing the decision of the lower court in the case of Utter v. Utter. If it had accomplished no more, the bee-keepers all over this land, far and wide, might consider it worthy of its support; but it has done more. It has put up a fight against town councils, against disagreeable neighbors, and against adulteration. The showing for 1900 is simply magnificent; indeed, in the matter of actual results no organization, either past or present, has for one year equaled it, in my humble opinion. Every bee-keeper in the land should at once send in one dollar, thus in a substantial manner showing a merited appreciation.

BLACK BROOD IN NEW YORK UNDER CONTROL.

IN my recent trip through New York there seemed to be a general impression among beekeepers that black and foul brood were under control. As a corroboration of this, the report of the Commissioner of Agriculture will be read with much interest. It is as follows:

The work of the Department of Agriculture by the four inspectors who have charge of diseases among bees has just closed for the season, and has been most satisfactory. Statistics convey only in part an idea of the labors performed by these experts. They have visited some of the fall fairs and other meeting places of apiarists, and their "missionary" work has awakened an interest which will stimulate the industry to more profitable proportions.

The sections of the State where foul brood has appeared are now known, and its control and extermination may be expected.

Number of apiaries visited.....	1,128
" of colonies.....	30,372
" " found diseased.....	7,253
" " condemned for treatment or destruction.....	5,972
" " destroyed.....	1,281

C. A. WRETING,
Com. of Agriculture.

This goes to show that one inspector could not have done this work. The Wisconsin law, which has often been pointed to as a model, provides for only *one* inspector; but the New York law is flexible enough to permit the Commissioner of Agriculture to appoint as many inspectors as, in his judgment, the exigencies of the case require. Four inspectors were appointed last season, and this number was deemed sufficient to cover those portions of

the State where the disease had been raging. The very fact that 7253 diseased colonies were found, is pretty good evidence that a real danger was threatening the very life of bee-keeping in one of the best honey-producing States in the Union; and that it was found necessary to destroy over 1000 colonies is further evidence of the awful spread of the disease, and what it might have done had it not been brought under control. Of course, it will break out again next spring and summer; but the task of controlling it will be much easier than it was last season; and in the very near future I have reason to believe it will be stamped out. Fortunately the disease was confined to a narrow section in the eastern part of New York. I did not hear of any traces of it in the western or central portions of the State.

BEES IN COURT; THE CASE OF UTTER VS. UTTER; A VERDICT FOR THE BEES.

THE celebrated case of Utter v. Utter came off on the 17th, 18th, and 19th, at Goshen, N. Y., the county-seat of Orange Co. The case was a peculiarly hard-fought one; and after 25 or 30 witnesses had been examined on both sides the jury brought in a verdict, after being out about ten minutes, for the defendant, bee-man Utter.

I need not say that the National Bee-keepers' Association took an active part in this case—one that seemed to involve the very life of bee keeping in New York. It pledged \$100 to Bacon & Merritt, two of the leading attorneys of Orange County—lawyers who have been retained in some of the most important cases that have been tried in that vicinity.

The trial was originally set for the 13th, but was postponed to the 17th. A. I. Root and myself arrived in the little city on Saturday, the 15th. We found that Mr. Benton had preceded us, but would be back in time for the trial on Monday morning. On the 17th, Mr. O. L. Hershiser, an attorney and also a bee-keeper, came from Buffalo, and also W. F. Marks, of Chapinville, N. Y. These five came prepared to render expert testimony to the effect that bees do not and can not puncture sound fruit. Something over a dozen witnesses from the vicinity, as well as from New Jersey, had been called by bee-keeper J. W. Utter. Among them were nurserymen, fruit-men, and bee-keepers, so that, all in all, the defense represented two of the best attorneys in New York, and some 16 or 17 witnesses. The attorney for the plaintiff, Mr. Sanford, at the last moment, called upon a distinguished attorney, a Mr. Cane, to assist him, as he had probably found he would have to put up a hard fight to win. The battle royal began on Monday afternoon, and continued until Tuesday night, with the result as already stated.

There were many laughable incidents and some queer statements on the part of the witnesses for the plaintiff as to how the bees did and could puncture fruit; how they used their "horns" (antennæ) to make the holes, etc. In the lower court, several of the witnesses, so I am told, testified that the bees got up "on their hind legs" and *slung* the fruit; went off

and left the peach, and stung others; that a rotten spot at the points pierced by the stings would soon set in, and this would be subsequently visited by the bees. In the higher court, that same set of witnesses testified that the bees punctured the fruit with the "head end" and not with the "business" end. It was evident that the prosecution had realized the utter absurdity of the former statement. The plaintiff, fruit-man Utter, while on the stand went on to describe how the bee moved its head first to one side and then the other, and raised up on its legs and flopped its wings; that after this performance he found there was a hole. This was corroborated with some variation by his two sons. It was amusing to see the plaintiff try to mimic the bee, on the witness-stand, as he swayed his head from one side to the other, raised up on his legs, and flopped his arms. His motions were so Utterly ridiculous, and so contrary to the real acts and movements of bees, that every one in the court-room, including the jury, laughed, and laughed heartily. I sincerely believe that, if the jury had gone out at that supreme moment on the evidence then presented, we should have had a verdict in our favor, even without one word of rebuttal testimony.

Another witness, Mrs. W. H. Utter, the wife of the plaintiff, testified that the bees would alight on the fruit, and then with their "horns" make holes in the peaches. She stated that there were eight holes in one peach she examined, and that three bees were on it; that, after they left, there were three more holes, or eleven in all. Mr. Bacon, one of our attorneys, in his cross-examination, got at the facts something in this way:

"You say, Mrs. Utter, that there were three holes after three bees had visited that peach?"

"Yes."

"You say that the bees made these holes with their horns?"

"Yes, sir."

"Where were these horns located?"

"On the top of the head."

"Two prongs like this?" said he, putting his two hands over his head.

"Yes."

"And they took those two horns, and dug them right down into the peach, did they?"

"Yes."

"Well, now, Mrs. Utter, will you tell the jury how three bees, each with two horns, could make only three holes? Shouldn't there have been six holes?"

"Wy ah, wy-ah, wy-ah; they took those two horns and put them together, and then poked them into the peach."

"O—h!" said Mr. Bacon, with a wise look.

At this there was an uproar of laughter. When the jury and the audience had subsided, Mr. Bacon continued:

"You are sure the bees made these holes with their horns?"

"Yes."

"Well, don't you know that those are antennæ, or feelers?"*

Several had talked about the so-called "horns," and how bees make holes with the horns; but after the learned counsel had

shown the *Utter* absurdity of the horn theory, then the prosecution began to talk about the "jaws;" and some of the witnesses told how the bees ran their "bills" down into the peach—meaning, of course, the tongue. But the bill theory was untenable, and the rest of the testimony was then confined to the jaws, which, it was averred, were powerful enough to puncture the skin of peaches. The prosecution claimed, among other things, that after the bees had punctured the peaches the juice ran down on the limbs, causing them to wither and dry up. In the former trial it was maintained that the trees were utterly destroyed; and even in this trial the Peach Utter at first talked of the destruction of the trees, and claimed damage for the loss of trees and fruit. The defense, on the other side, showed by two good witnesses that the plaintiff, Mr. Utter, the fruit-man, had said to each of the affiants that these trees were going to die, and he would have to pull them up, and this was *before* the bees are alleged to have visited the fruit.

In this connection I might state that a great deal of testimony was produced on the subject of peach-trees with "wet feet," peach-trees with "curl," and peach-trees with the "yellows." From all the evidence, it seemed very clear that *something* was the matter with Peach Utter's trees before the bees ever came near them. It was admitted that the fruit was very early, and from the expert testimony of fruit-men it seemed to be pretty clear that the trees had been forced up, or borne too early, with the result that the fruit itself decayed prematurely, resulting in injury to the limbs of the trees. There was testimony produced showing that early peaches will very often develop rotten spots, even when kept away from the visitation of bees; that these spots, at first invisible, will be readily discovered by bees; and as the spots enlarge sometimes within the space of two or three hours, the bees often get the blame for doing a kind of mischief that clearly should not have been laid at their door.

I omitted to say that Peach Man Utter testified that he caught some bees from the peaches and put them in a box. These bees he liberated at different points, and he said that, in every case except one, they flew toward his brother's apiary. But the defense showed that there were six or eight apiaries all around Bee Utter's place, and that it proved nothing to say that the confined bees flew toward Utter's apiary. So there was no real proof that Bee Utter's bees were the only trespassers, if trespass there was.

I do not need to rehearse here the testimony that was introduced by expert bee-keepers, though I can not omit reference to the testimony of Prof. Frank Benton, Assistant Entomologist, Department of Agriculture, Washington, D. C. Prof. Benton had been sent by the National Bee-keepers' Association to render expert testimony on the mouth parts of

* I believe the witness was honest in believing that the antennæ, or feelers, were "horns;" and as they moved up and down, touching the peach, she erroneously assumed that they were puncturing the peaches. As to the three extra holes, she was evidently blinded by prejudice.

the bees, and he certainly was the star witness for the defense. He showed by live and dead specimens of bees, and also by charts which he had brought for the occasion, that in his opinion it was a physical impossibility for the bees to puncture fruit with their mandibles, or jaws; that the jaws of bees were very different from those of wasps and other insects having cutting edges or teeth. He chloroformed some live bees and then passed them around to the jury, after our attorneys had obtained consent from the court to do so. He showed them that the delicate tongue, so far from being a "bill" which could puncture a sound peach, was more like a camel's-hair brush; that it would be absurd to suppose that they could run this through the skin of any substance. He admitted that bees could tear by picking away at fiber, but denied the possibility of their *cutting* the skin of any fruit. The jaws, or mandibles, had smooth rounding edges, which, he showed by charts, were different in this respect from the jaws of a wasp, that has cutting edges or teeth; that the mandibles were made for forming plastic substances like wax; and even then the wax had to be brought to a temperature of about 90 degrees before such work could be performed.

The professor's testimony, so far from bearing evidence of prejudice, was what might be termed in legal phraseology "candied," the kind that weighs with a jury. There was no evasion, and no attempt on his part to make *all* of his testimony in favor of the bees. When asked whether he regarded the experiment of confining a few bees in a box with a peach as worth any thing to prove that bees would not or could not puncture sound fruit, he said that, in his opinion, it did not count for much, as he doubted whether they would even help themselves to honey under like circumstances.

At the conclusion of the testimony for the defense the prosecution called Peach Uter back to the stand, and asked him whether the trees, the fruit of which the bees were alleged to have stung, causing the limbs to die, were alive and in good order. He said yes, in very good order. This testimony was produced, probably, to show that the trees did not have the "yellows" or "wet feet," as was claimed by the defense. But Mr. Bacon, in his final plea before the jury, called attention to the fact that the plaintiff *first* testified that his trees had been *destroyed*, and that now they were *good and sound*; and yet he desired compensation for the trees which he at first said were *destroyed*! Mr. Bacon made a strong plea, picking up all the important threads of evidence, and hurling them at the jury in a most forcible manner.

The attorney for the plaintiff, Mr. Cane, while he did not attack the testimony of Mr. Benton, turned his guns upon A. I. Root, shaking his fist in his face, and calling him the great "poo-bah" of the West. A. I. R. did not appear to relish the compliment; but the rest of us enjoyed the joke immensely, though there wasn't one of us who knew what "poo-bah" meant. We consoled A. I. by

saying that it signified something *big*, and told him not to feel bad.

Of course, no one could tell absolutely what the jury would do; but it seemed to be made up, if I could judge by their faces, of a lot of intelligent, thinking men.

The judge, in his charge, rehearsed very carefully and impartially the full case, and then said that the jury, in order to render a verdict for the plaintiff, must find that the bees of the defendant, and *his bees alone*, were the trespassers; and that it (the jury) should further give very careful consideration to expert testimony. The jury then retired, and in about ten minutes returned with a verdict of "no cause for action."

It will be interesting in this connection to give a few statements from some of the newspapers which, of course, in the personages of their reporters, looked on the case with an unprejudiced eye. The New York *Sun* for Dec. 19 contains this item:

The National Bee-keepers' Association secured many expert witnesses to prove that bees will not attack perfect fruit. Among them are Frank Benton, assistant entomologist of the United States Department of Agriculture, and A. I. and E. R. Root, of Medina, Ohio. Bee-keepers from all over the State are assembled, and will spend much money to win. Peach Tree Uter's case is tottering, so the local agriculturists say, and there is much rejoicing among the bee-keepers.

This shows that the National Bee-keepers' Association was regarded as a power on this particular occasion; for it will be noticed that the item goes on to state that Peach Tree Uter's case was beginning to totter; and this was before all the evidence had been introduced. On the next day this same paper referred to the evidence of Prof. Frank Benton in the following language:

The star witness for the defendant, however, was Prof. Frank Benton, an assistant entomologist of the United States Department of Agriculture. He had spent thirty years studying bees, and for that purpose spent four years in Austria, four in Germany, and several in Eastern countries, in pursuit of bee knowledge. He said that the tongue of the bee was soft and pliable, and could not puncture a peach. The inner tongue of the bee is spoon-shaped, and covered with hair. It can not become rigid. It laps its food, which is called nectar, and is fond of rotten peaches. Its feelers are soft, and can not pierce any substance that offers the least resistance. They are supposedly the organs of touch and smell by which bees recognize each other by the odor of the body. Sometimes they will meet and wind their feelers about each other. This is their method of shaking hands.

The Rochester *Democrat and Chronicle* for Dec. 21 contained this editorial item:

After hearing an abundance of expert testimony, a jury in Goshen, New York, has decided that honey-bees do not injure peaches. It was admitted by all that bees are attracted to wounded or decaying peaches, and get some sweets from them, but are incapable of puncturing a sound peach. The deciding testimony was given by Prof. Frank Benton, assistant entomologist of the Department of Agriculture. He described the organs by which the bee secures food, and showed that they were soft, and unequal to the puncture of the hairy skin of the peach. A lawsuit between brothers was based upon the unfounded supposition that a bee can puncture the skin and induce decay. Some other insect or a bird is the probable cause of the injury that became the subject of complaint. It is well for the peach-growers of Western New York to understand this matter.

We have not room to give more clippings; but these are sufficient to show that the National Bee-keepers' Association exerted a powerful influence in the case, in that it enabled

Mr. Utter, the bee-man, to employ the best legal talent, and, in addition, furnish expert testimony on the bee side of the question, so that an unprejudiced jury, seeing and knowing the facts, would render a verdict accordingly.

This case was a hard-fought one from beginning to end. There was no lack of legal counsel on either side, and no lack of witnesses; but, thanks to the Association, we were able to show that the evidence adduced by the plaintiff was, for the most part, to put a most charitable construction on it, founded on misapprehension, ignorance, and prejudice. There is no doubt that some witnesses for the fruit-men actually believed that the bees did puncture sound fruit with their "horns or bills." If they did so believe, and if they heard our evidence, their belief must have been most severely shaken before they went away.



What doth the Lord require of thee but to do justly,
and to love mercy, and to walk humbly with thy God?
—MICAH 6:8.

I presume there has always been a great demand for men for office who will be *just*; but at present there seems to be greater need of men who can be trusted than ever before since the world began. Our text speaks of not only doing justly, but loving mercy, and walking humbly with God. Sometimes we feel as if we could get along very well if we could find men who would "do justly," to say nothing about mercy or having the fear of God in their hearts. The people who take lead in these shameful scenes of lynching excuse themselves by saying there is no justice to be obtained, and no redress to be secured by law; and when we notice the hundreds and thousands of dollars that are required to get one criminal punished by law, it does seem somewhat discouraging. The man Ruthven, whose life was full of crime, and who not only shot a policeman, but tried to shoot other people right and left in broad daylight in Cleveland, had to go through a long-drawn out and expensive lawsuit before he could be found guilty and sentenced to death as he has been. No one questions, unless it is his own attorneys, the matter of his guilt. And, by the way, I can not quite understand how it is that lawyers will spend so much time and money to try to get such a man (with no money to pay them) out of the clutches of the law. Perhaps I had better stop here or I shall be finding fault, and criticising our courts, when I started out to do just the reverse.

In our last issue, on page 974, I expressed a fear that our colored friends could hardly expect protection from our laws—especially such protection as our white citizens have a right to expect. Since that was written I have had a pleasant experience along that line.

Just a week ago to-day, Dec. 15, I visited Goshen, Orange Co., N. Y., in the interest of bee keepers in the suit between the Utter brothers; but as Ernest will tell you about this, I wish to speak about something else just now. Our suit was to be taken up at 9 o'clock on Monday morning, the 17th; and when all the parties were on hand we found there was another suit in ahead of us that they thought would occupy only an hour or two. However, it occupied almost the entire day. As we beekeepers and fruit-growers wanted to be on hand promptly, we remained in the courtroom and witnessed the trial between an electric-railway company and a colored man who had been knocked down and thrown off the car by the motorman. During my busy life I have hardly found time to be present at court proceedings. In fact, I am not sure I ever attended unless I was called in as a witness, and just one time when I was on the jury for two days. Well, in this case the colored man sued the trolley company for damages. I very soon made up my mind that, even though he had been roughly handled, he stood no chance of getting any damages at all. Between Middletown and Goshen there is a park. I noticed it as I passed through, and saw the signs on the buildings of the different kinds of beer that were sold there in the summer time. By the way, that park (I have forgotten the name of it) or, rather, the buildings with inscriptions on them, are a disgrace to Orange Co. as well as to the whole State of New York. But as I say it I recognize that our own State of Ohio is cursed with any number of just such summer resorts. The row that brought this case before the court occurred on Sunday, as you might expect, and after some if not all the parties had been drinking. Green, the colored man, said under oath that he had had two glasses of beer and one glass of whisky. He claimed the motorman was drunk also, but this was not proved conclusively.

Near the park a second drunken man was permitted to get aboard. The conductor did not want to let him get on, but Green desired that he should. The conductor tried to put him off because of his profanity and obscenity. Green and his wife quieted him down and tried to get him to behave himself. When the drunken man had no money to pay his fare, the conductor again tried to put him off. This, of course, started the profanity once more. Green evidently tried to act as peacemaker, and says he volunteered to pay the fare for his friend; but the conductor evidently thought best to put him off. Being unable to do this he called the motorman to his aid. Green remonstrated, either by words or actions, and the motorman struck him with his trolley-crank, knocked him off on the ground, and laid bare his skull. He climbed back on the seat, however, and every thing went on pleasantly.

Let me pause right here to say that I was forced to admire the skill and ingenuity with which four lawyers went to work to bring out every little item of fact regarding the matter. More than a dozen witnesses were examined, and it was really wonderful to me to see how

the lawyers unraveled the conflicting testimony, and held all the facts in the case up before the light of day. A young lawyer who looked as if he might be a Christian, from his fairness and evident sincerity, strongly impressed me, and he gained his case. The jury, greatly to my surprise, gave Green a verdict of \$50.00 damages. The railway company had, as a matter of course, two bright and skillful attorneys. I admired them too, and I thanked God in my heart again and again for the lawyers of our land—that is, if those I heard that day were a fair specimen of the legal profession.

The judge, J. G. Beattie, of Warwick, N. Y., is an exceedingly able, fair-minded, and kind gentleman. I watched him with the keenest scrutiny to see if I could detect any bias on his part, either one way or the other. Ernest will give you a picture of him in due time. Now, then, for the point of my story.

The above are not the exact words, but as near as I can remember in substance; and during the whole trial not a word or suggestion was made by any witness or lawyer, by way of reflection on the colored people *because* they were colored. The State of New York certainly ignores color in the administration of law and justice. Long live the Empire State—in this one particular at least. Three colored people, if not four, had more or less to do with the affray, and there were a good many more colored people in the car, as it appeared from the witnesses; but although I kept expecting it every little while, not one word was dropped to indicate that the fracas was caused by a lot of drunken negroes on a car during a Sunday excursion.

By the way, I wonder if Sunday excursions do not always go with beer and drinking; and I wonder, too, if it is not true that, if we break down one, we shall break down the oth-



CLASS OF GIRLS LEARNING BEE-KEEPING.

The attorney for the railway company, in his opening words to the jury, said something like this:

"Gentlemen, let me impress on your minds, at the very outset, that the fact that this man is black, instead of white, must not in any way prejudice you against him one hair's breadth. He is in no way responsible for the color of his skin. He is, however, responsible, like all the rest of us, for his behavior and character before the world. Give him just as good a chance in your minds as you would give the whitest man that ever lived. He has just as good a right to life, liberty, and the pursuit of happiness, as any one of us. The only question is in regard to his behavior and general character."

er. If we stop Sunday excursions the beer-drinking will stop—at least to a great extent; and if we stop the sale of beer on Sunday, is it not true that we shall stop the Sunday excursions? This unfortunate man declared from his own testimony that he had had two glasses of beer and one of whisky. His wife said she had one glass of beer, and that was all. His colored comrade, who was at the bottom of the whole disturbance, had beer and whisky—we do not know how much; but we do know that when he felt in his pocket he could not find even a nickel left to pay his fare. How are we as a nation going to deal justly, love mercy, and walk humbly before God, while we run Sunday excursions, carry colored people and everybody else, then permit the brew-

ers to advertise on the buildings, and push their beer and whisky before these people by every art that wealth can command? Why, the wonder to me is there is not ever so much more free fighting than we have now. Permit me to say right here, even if it is outside of the line of my text, that throughout the trial between the bee-keepers and fruit-growers I was impressed in the same way, not only with the wisdom and fairness of Judge Beattie, but also by the skill and wisdom, and, as a rule, with the honesty, of the lawyers. One lawyer was undignified and uncourteous enough to call me names, and to pervert the truth of my statements, when I went there to help both the bee-keepers and the fruit-growers. I am told this thing is common; but, even if it is, I protest. In my opinion it is not only ungentlemanly, but I think it hurts any attorney to go out of his way to be uncourteous and uncivil to a witness who comes from a distance, and who has at least a fair reputation among men. This lawyer lost his case; and I should not be surprised if this one thing contributed largely to his prejudice.

In our last I told you I expected to have one or more of the cuts from that book describing the work among the colored people in Tuskegee, Ala. I wish to call your attention first to the beautiful picture of the apiary.

The building in the background is only one of the fine structures built for the institution, entirely by the colored people. The hives, you notice, are the Dovetailed eight-frame. They seem to be stationed on wooden planks nailed to substantial cleats or pieces of scantling. I should object to these planks unless the girls were very careful not to step on them, because the jar might arouse the bees. Another thing, in handling one of the hives unless the plank were very solid it would jar or disturb the next one.

How exceedingly natural it looks to see these women at work in the open air! In their warm climate I should think those hives would need some sort of shade. If they are kept painted white, however, they may do very well. In my last I suggested that it was probably Mrs. Booker Washington who taught the girls bee-keeping. The publishers of the book make the following comment in regard to the matter:

Mr. Thrasher tells us that Mrs. Washington does not have direct charge of the bee-keeping, which is in charge of the instructor in agriculture. She has su-

pervision, however, over all the young women at the institute, and assigns the women students to the different departments.

SMALL, MAYNARD & Co.

Boston, Dec. 14.

Here is the picture of Mrs. Washington herself, the woman whom Booker selected to be his comrade and helper through the great work he has undertaken. I wanted this picture because it shows so clearly how character stamps itself on the face of any one, even a colored woman. I can imagine this woman meeting among other women of the W. C. T. U., and giving the benefit of her education and expe-



MRS. BOOKER T. WASHINGTON.

rience. Just take a good look at her, and imagine what a power she has been and is going to be among the people of her race. I can not tell you here what is in the book, because I want you to read it for yourself; but I will give just one illustration. Somewhere she found a father and mother and a family of children; but the parents had never been married. Nobody could do any thing with them. They got along well enough, and didn't care. Mrs. Washington took the case

in hand, and she tells how she talked with them; how she managed to make the undertaking an easy one, and yet at the same time have them recognize the reverence and respect due to such a ceremony, as well as the effect of the example on the whole of their race. The ceremony was performed in her own parlor, she furnishing the sponge cake and lemonade and other things, to make it appear like a wedding.

If there was ever a work since the world began that means *out of the darkness, and into the light*, this work at Tuskegee is just that. We do not know the future of the colored race; and, for that matter, we do not know future of the *white* race; and we do not know how the two races are going to get along together. But God knows, and we have his blessed promise that, if we "do justly and love mercy and walk humbly before God," "all things shall work together for good to those who love him."



My talk just now is going to be high-pressure poultry-raising rather than high-pressure gardening. It may be I shall have something to say about high-pressure bee-keeping before I get through. In the *Pacific Rural Press* of Nov. 3 a poultry experiment is reported by Prof. Dryden, of the Utah Experiment Station. First we have pictures of five very pretty Brown Leghorn pullets. There is nothing in the looks of any particular one of these pullets to indicate that she should be noticeably better than any other. The experiment was made to determine which hen would produce the most eggs for the same amount of food; or, in other words, to determine what the food cost, per dozen eggs. Well, with No. 70 the food alone cost over 13 cts. per dozen. No. 71, the food per dozen did not cost quite 4 cts. No. 72, the food cost not quite 4 cents per dozen eggs. No. 73 the cost of food was $3\frac{1}{2}$ cents per dozen eggs. No. 74 the cost of food was a little more than $6\frac{1}{2}$ cents per dozen eggs. Now, when eggs are sold at 12 cents per dozen, as they often are, No. 70 was sinking money for her owner every day in the year. Such a flock would bankrupt the owner; and even one such hen among the others spoils the credit of the whole flock. No one could tell any thing about it from her looks. The experiment was continued a whole year with all, so as to get a true general average.

Our brethren in the dairy business have been for some time, as our readers probably know, weeding out the worthless cows; and just within a short time back our friends in the poultry business have been sorting out the drones among their laying hens from the really profitable workers. For years and years they have been "breeding to feather," just as the bee-keepers have been breeding for yellow bands, and filling the bee-papers with adver-

tisements of their handsome bees produced by careful selection, working just for looks, or at least I *fear* this has been too often the case. I have protested and scolded, but still the thing has kept going on. Why, my dear friends, what would you think of a young *man* who would pick out a wife "just for looks"? Come to think of it, I do not know but some of them are guilty of that very thing—picking out a girl just because of her good looks, and then marrying her before he has had any time to find out whether she is a drone or worker. Well, there is one thing hopeful about the wife. She may start out as a drone, but become, by the grace of God, waked up, and make one of the best workers before she dies. Thank God, both you and I have seen such things happen, not only with the girls but with the boys.

Well, our bee-keeping friends, nearly if not quite all of them, know about the recent stir in hunting up queens that produce long-tongued workers. Ernest has told you that these workers with long tongues seem to come every time from colonies that excel all the others in securing large crops of honey. It is an easy matter with the bees, and it is an easy matter with the cows, to tell which ones are bringing in the dollars; and if you have only half a dozen hens, and not much to do, you can tell pretty well the biddy that lays the greatest number of eggs. But when pullets are kept by the dozens and hundreds, then how? Why, I see by looking over the poultry-papers that they are just having quite a big stir about what they call the "trap nest." This sort of nest holds the hen until her owner lets her out; or a modification of the above lets the hen go into a nest from one yard or house, and when she goes off she goes out into another yard or house. The owner can then tell at once which hens have laid eggs; but to know just exactly which hen does the laying, and exactly how many eggs she lays, each hen must be numbered. She has a very pretty little bracelet, not to wear on her wrist, but on her ankle. When she lays an egg I suppose she is allowed to cackle in the good old way. Then when her owner comes to let her out she daintily lifts her foot (I have not learned yet whether she deftly raises her skirt a little, but perhaps she will get to that after a while) until he can read the number on the aforesaid bracelet, and make a pencil-mark on the door of the trap nest. These pencil-marks (on a ruled card) constitute a memorandum to be footed up at the end of the season.

Now, this trap nest is revealing a great many queer things. Very few hens lay an egg a day, even for a week—at least some good authorities tell me so. Some hens do, it is true, in rare cases, lay an egg in the morning and another at night; but they do not lay one next day in that case. Very few hens lay seven days in a week—usually about six on the average. It spoils the couplet about Grimes' speckled hen. Perhaps I had better give it here. It should be sung to the tune of Old Lang Syne:

Whoever stole my speckled hen had better let 'er be:
She laid two eggs on every day, and Sunday she laid three.

Yes, the speckled hen herself is knocked out too. You see I have been visiting poultry-keepers lately; and if you are a poultry-man, may be I shall hunt you up when I get around on my bicycle. Instead of *speckled* hens nowadays the whole flock must be clear white, buff, black, or barred, like the Plymouth Rocks. But there must not be any sport in the way of feathers of a different color. I have just purchased two pullets and a rooster—White Plymouth Rocks. I got the rooster for \$2.00. He has a few cream-colored feathers or else he would have been worth \$5.00. His father was sold for \$30.00; but he had all the points, and every feather was up to the mark. Now, I do not care a cent about the feathers; but I do want a hen that lays an egg every day in the year, or as near to it as possible. I would hardly insist that she lay three eggs on Sunday; but if she would lay just one egg early in the morning it seems to me she would not be any the less orthodox on that account. At present I am getting two eggs a day, from one old hen and three pullets. I have not any particular need of a trap nest, because I know the egg that each hen lays; and yet I am curious about that trap-nest business; but when I scan the poultry-papers to see where I can buy one, I feel like objecting to the way the poultry people do things. Perhaps if I am going to mix in with their crowd I had better take things as I find them, and not go to crowding in my notions. What I object to is that nobody has a trap nest to sell; but most of them sell you directions how to make them, all the way from 15 cents up to \$2.00. Each man has a plan that sends all the other inventions in this line away out of sight; but he would not even give you a picture of it unless you plank down the money. I do not know whether you have to sign a contract not to divulge the wonderful secret to your neighbors around or not. I sent fifteen cents to one fellow. His nest is something like a basket hung on a nail. When the hen steps on the edge of the basket to get into the nest, a lid flops down that holds her in. When she gets "through" she is expected to cackle, and her owner comes and lets her out and gives her credit. Now, why do not these enterprising poultry-journals send these inventors the two dollars, or a smaller sum, and then give the invention to all the world? One of the best poultry-journals, called the *Featherer*, has indeed illustrated, with excellent cuts, a very nice sort of trap nest; but I had to have a good laugh when I was reading it over. For instance, he says you must not make the nest in such a way that the folding doors will bump the biddy when she is getting on the nest, or she might take offense and refuse to "trade at that store." Again, "when the doors close they must not pinch her tail." The editor says she objects to that sort of treatment also. One thing I like about the trap nest is that the hens must be tamed so you can give them an encouraging pat on the back at any time. My two white pullets are already so tame they rather expect an encouraging word or a dainty morsel every time one goes near them. My white rooster, however, does not seem to fan-

cy too much "taffy" of that sort. When he thinks you have said enough he shows fight; and it does not make any difference who it is, even the boss of the ranch. When I was absent in York State he and Mrs. Root had several pitched battles. He decided to drive her out of the poultry-house, when she went near the nest to get the eggs, and I think he came pretty near doing it. When she brought them a dainty mash prepared by her own hands he knocked the dish out of her hands, and she was absolutely obliged to get a club in order to teach him to be respectful to his mistress. Do you begin to suspect that poultry is going to be my next hobby? Well, is it not a pretty good one, anyhow? The *Rural New-Yorker* says the eggs and meat produced each year in the United States in the poultry business are worth as much as the entire crop of wheat.

But let us now get back to this trap nest. I should not wonder if some good man or woman has been saying, "Well, I suppose there are some people who have nothing to do but to watch hens and take them off the nest, and count the eggs; but you do not catch me going into any such small business as that." But, just hold on, my friend. These hens that have a big record back of them are the ones we want for breeders. If they do not sit at all it does not matter, because the incubator as now made is a success. Yes, I know there has been lots of money wasted on incubators, and lots of people have been disappointed. But one of the girls in the office, right close to where I am sitting, uses an incubator that cost only \$5.00, and *she* makes a success of it. The fowls I have been speaking about were just purchased from her flock. Get a pullet with a good egg-record, and her chickens are likely to produce layers like their mother. These choice pullets, with a record by means of the trap nest, are worth anywhere from \$2.00 up. May be some of the poultry-keepers who know more about this than I do can tell how *much* some pullets are worth. At the Willow Crest poultry-yards at Goshen, N. Y., three or four days ago, I saw several hens valued at \$25.00 each; and I also examined a White Wyandotte rooster for which the firm recently paid \$125. Do you say "stuff and nonsense"? Why, look here, my friend. They have already got a lot of orders for eggs at \$5.00 a dozen. These eggs are to be from choice pullets *fathered* by this high-priced male bird. If you are going into the poultry business you can grow high-priced layers just as easily—in fact, easier—than to grow worthless stock. It costs a little more to start with. I can very well remember when the Light Brahmas were introduced somewhere down east, just a few years after we had had the long-legged Shanghais. The first Light Brahma eggs were sold at a dollar apiece. The orders were so far ahead that people came long distances, and boarded at the hotel until the egg was laid. The minute biddy dropped the choice egg, the owner handed over his dollar and started off home a happy man, and well he might be. In a few short weeks—perhaps I had better say months—he could have a *flock* of Light Brahmas of his own; and while he might not get a dollar

apiece for his eggs he could get several dollars a dozen. The advent of the Light Brahma gave the whole poultry business a boom, and added, I think I might say, millions to the wealth of the world.



BINDERS FOR GLEANINGS.

We can supply a very simple binder for GLEANINGS, called the Monitor, at 15 cents each, postpaid. These are made of tin in the form of two half-round tubes between which the copies of GLEANINGS are placed as received. They are held securely in good shape, and you would find them a great convenience. Then we have a much better and more expensive binder which incloses in a cloth-bound cover the numbers as they arrive until the year's volume is complete. Price 60c; or with leather back and corners, 75c; by mail, 85c extra for postage.

GLEANINGS AND AMERICAN AGRICULTURIST.

A great many have written us within the past two weeks, inquiring if they can not, as usual, have the *American Agriculturist* or *Orange Judd Farmer*, or *N. E. Homestead*, clubbed with GLEANINGS for \$1.00. We have been compelled to reply no, because the publishers of these papers have withdrawn the special clubbing arrangement they formerly made, and that the best rate we can now offer on the two is \$1.50. Some have not taken the precaution to write, but have sent on their order for both papers with \$1.00. If we can get such through on the old rate we will do it; but we have scarcely a right to ask it after the arrangement has been withdrawn, and we no longer include the paper in our clubbing offers. Please make note of this, as we can not accept any more such combinations at the old rate.

Special Notices by A. I. Root.

ADVANCE IN PRICES ON MEDIUM, AND PEAVINE (OR MAMMOTH) RED CLOVERS.

Instead of \$5.50 per bushel, as in our catalog, the lowest price we can possibly make at present writing, Jan. 1, is \$6.00 per bushel, sack included. Price for small quantity will be the same as given in our catalog.

THE BOOK, STODDARD'S NEW EGG-FARM.

Just about a year ago I became very much taken up with this book; and because of the big write-up I gave it we have sold toward 100 copies; and to tell the truth, my friends, it is this very fact that troubles me. When I read the book I took it for granted that the author either had an egg-farm of his own where the work of caring for the poultry was managed by machinery, or that there were some institutions operated on some such plan scattered over the land. So far I have not been able to find any such establishment, neither have I been able to find an egg-farm anything like the one described there. I have written the O. Judd Co., the publishers of the book, and they have promised me to look into the matter and see why the author of the book does not answer me. If the plans outlined in the book are all on paper, and have never been demonstrated in actual practice, we who have purchased the book have a right to know it. I still think the book is a valuable one in exhorting, not only that poultry shall be cured and kept well by a large amount of outdoor exercise, but in teaching us that a like principle runs through the whole animal kingdom. I do not believe the book is a bit exaggerated in this respect, and I think poultrymen are fast accepting this great truth. We know *something* has been done in the way of using machinery to care for poultry, because many of the cuts in the book are from actual photos. Now, then, if any reader of GLEANINGS knows where Stoddard's system is in actual practice I wish he would write and let me know about it. I wish also I could get at least a postal card from each one of you who have purchased the book through my advice, telling what you think of it, and

state whether the purchase of the book was a good investment or not.

CLOVER FARMING, BY HENRY WALLACE.

The above is the title of a little book, paper covers, from the Wallace Publishing Co., Des Moines, Ia. It is a volume of 220 pages, and contains a very large amount of valuable matter. It discusses all the clovers; how to sow the seed, and when; enemies of the clover; and it discusses briefly the different varieties of clover, and certainly ought to be worth many times its price to any farmer who is interested in clover. I confess, however, I was somewhat disappointed at not finding a single hint that clover seed might be put in in the fall, and get root enough to winter over. There is a slight mention of crimson clover, but not very favorable. (While I write, Dec. 4, a most beautiful stand of crimson clover greets my eye just out of the window, over in the lot; and if this winters over—and I am sure it will—it will make the sixth season I have succeeded perfectly in carrying through crimson clover sown in August.) Sweet clover is also noticed very briefly. Perhaps half a page is given to it out of the whole 220. There is just one paragraph, however, that partly atones for its very brief mention.

When, however, other grasses fail, it is found to have very considerable feeding value; and as a fertilizer, it is doubtful if it is exceeded or even equaled by any of the clovers.

Alsike clover is also briefly touched on, but the book does not accord it any thing like the value made out of it by the three recent writers in GLEANINGS. If the author could have talked a little more with some bee-keeper before his book was put out, I think he might have made it more valuable.

As it is the only book we have, devoted entirely to the clovers, we welcome it, and it ought to have a large sale. We can mail it from this office for 35 cents; or you can have it for 30 cts. shipped with other goods. The book is written in such a familiar, off-hand way, that if you once begin it you will be likely to want to read it through, even if you are not particularly interested in the growing of clover.

CONVENTION NOTICE.

The annual meeting of the New York State Association of Bee-keepers' Societies will be held in the Kirkwood, Geneva, N. Y., on Wed., Jan. 9, 1901, at 10 A. M., and continue through the afternoon and evening.

W. F. MARKS, Pres.

C. C. HOWARD, Sec'y,
Romulus, N. Y.

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Strictly pure extracted honey, in original five-gallon cans, as received from the apiary, 2 cans in case, 7½c per lb., f. o. b. Provo, Utah; or if wanted East, 8c per lb. f. o. b. Chicago. Write S. T. Fish & Co., Chicago, Ill., who will ship from there. Honey guaranteed strictly pure.

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